

ENERGY TRANSFER DYES WITH ENHANCED FLUORESCENCE

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ABSTRACT

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Novel linkers for linking a donor dye to an acceptor dye in an
energy transfer fluorescent dye are provided. These linkers facilitate the
efficient transfer of energy between a donor and acceptor dye in an
energy transfer dye. One of these linkers for linking a donor dye to an
acceptor dye in an energy transfer fluorescent dye has the general
10 structure $R_{21}Z_1C(O)R_{22}R_{28}$ where R_{21} is a C_{1-5} alkyl attached to the donor
dye, $C(O)$ is a carbonyl group, Z_1 is either NH, sulfur or oxygen, R_{22} is a
substituent which includes an alkene, diene, alkyne, a five and six
membered ring having at least one unsaturated bond or a fused ring
15 structure which is attached to the carbonyl carbon, and R_{28} includes a
functional group which attaches the linker to the acceptor dye.